CLAIMS

1. A method of producing a porous plastic film, the method comprising:

producing a stretchable preform from a raw material blend comprising a polymer-containing basic material and an additive,

stretching the blank so as to form a film comprising pores, **characterized** by

the additive comprising a POS(S) chemical.

2. A method as claimed in claim 1, **characterized** by stretching the preform biaxially.

3. A method as claimed in claim 1 or 2, **characterized** by stretching the preform within a draw ratio range of 2:1 to 8:1.

4. A method as claimed in any one of the preceding claims, **characterized** by the POS(S) being in a solid state at room temperature.

5. A method as claimed in claim 4, **characterized** by blending the POS(S) with the basic material at a temperature lower than the melting temperature of the POS(S).

6. A method as claimed in claim 4, **characterized** by blending the POS(S) with the basic material at a temperature exceeding the melting temperature of the POS(S).

7. A method as claimed in any one of the preceding claims, **characterized** by the POS(S) being in a liquid state at room temperature.

8. A method as claimed in any one of the preceding claims, **characterized** by the POS(S) comprising one or more of the following chemicals: dodecaphenyl-POSS $C_{17}H_{60}O_{18}Si_{12}$, isooctyl-POSS $[Me_3CCH_2CH(Me)CH_2]_nT_n$, wherein n = 8, 10 or 12, octacyclohexyl-POSS $C_{48}H_{88}O_{12}Si_8$, octacyclopentyl-POSS $C_{40}H_{72}O_{12}Si_8$, octaisobutyl-POSS $C_{32}H_{72}O_{12}Si_8$, octamethyl-POSS $C_8H_{24}O_{12}Si_8$, octaphenyl-POSS $C_{48}H_{40}O_{12}Si_8$, octa-TMA-POSS $C_{32}H_{96}O_{20}Si_8 \cdot \sim 60\ H_2O$, dodecatrifluoropropyl-POSS $C_{36}H_{48}F_{36}O_{18}Si_{12}$, octatrimethylsiloxy-POSS $C_{24}H_{72}O_{20}Si_{16}$, phenetyl-POSS $(PhCH_2CH_2)_nT_n$, wherein n = 8, 10 or 12, phenetylisobutyl-POSS $C_{36}H_{72}O_{12}Si_8$.

9. A method as claimed in any one of the preceding claims, **characterized** by the basic material comprising one or more of the fol-

lowing polymers: polypropylenes, cyclic olefin copolymers, cyclic olefin polymers, polymethylpentene, polyethylene terephthalate, polybutene terephtalate, polyethylene naphthalate, polyeterimide.

10. A method as claimed in any one of the preceding claims, **characterized** by the thickness of the porous plastic film being 5 to 200 µm.

11. A method as claimed in any one of the preceding claims, **characterized** by the amount of POS(S) being 0.1 to 50 percent by weight calculated from the weight of the basic material.

12. A method as claimed in any one of the preceding claims, **characterized** by expanding the pores comprised by the film with gas.

13. A method as claimed in any one of the preceding claims, **characterized** by charging the porous film by directing an electric field over it.

14. A method as claimed in any one of the preceding claims, **characterized** by preparing an electrically conductive element on at lest one side of the porous film.

15. A porous plastic film produced from a raw material blend containing a basic material and an additive mixed therewith, a plurality of pores being arranged in the structure of the plastic film, **characterized** in that the additive comprises a POS(S) chemical.

16. A plastic film as claimed in claim 15, **characterized** in that the pores are produced by stretching a preform made from the raw material blend.

17. A plastic film as claimed in claim 16, **characterized** in that the pores are produced by stretching the preform biaxially.

18. A plastic film as claimed in claim 16 or 17, **characterized** in that the draw ratio of the stretching is within a draw ratio range of 2:1 to 8:1.

19. A plastic film as claimed in any one of claims 15 to 18, **characterized** in that the pores are closed pores.

20. A plastic film as claimed in any one of claims 15 to 18, **characterized** in that the POS(S) comprises one or more of the following chemicals: dodecaphenyl-POSS $C_{17}H_{60}O_{18}Si_{12}$, isooctyl-POSS $[Me_3CCH_2CH(Me)CH_2]_nT_n$, wherein n = 8, 10 or 12, octacyclohexyl-POSS $C_{48}H_{88}O_{12}Si_8$, octacyclopentyl-POSS $C_{40}H_{72}O_{12}Si_8$, octaisobutyl-POSS $C_{32}H_{72}O_{12}Si_8$, octamethyl-POSS $C_8H_{24}O_{12}Si_8$, octaphenyl-POSS $C_{48}H_{40}O_{12}Si_8$,

octa-TMA-POSS $C_{32}H_{96}O_{20}Si_8 \cdot \sim 60\ H_2O$, dodecatrifluoropropyl-POSS $C_{36}H_{48}F_{36}O_{18}Si_{12}$, octatrimethylsiloxy-POSS $C_{24}H_{72}O_{20}Si_{16}$, phenetyl-POSS $(PhCH_2CH_2)_nT_n$, wherein n = 8, 10 or 12, phenetylisobutyl-POSS $C_{36}H_{72}O_{12}Si_8$.

21. A plastic film as claimed in any one of claims 15 to 20, **characterized** in that the basic material comprises one or more of the following polymers: polypropylenes, cyclic olefin copolymers, cyclic olefin polymers, polymethylpentene, polyethylene terephthalate, polybutene terephtalate, polyethylene naphthalate, polyeterimide.

22. A plastic film as claimed in any one of claims 15 to 21, **characterized** in that at least one of its surfaces is at least partly coated with an electrically conductive coating.

23. A plastic film as claimed in any one of claims 15 to 22, **characterized** in that the plastic film is electrically charged.

24. A plastic film as claimed in claim 23, **characterized** in that it is an electromechanical film and/or an electret film.

25. A plastic film as claimed in claim 24, **characterized** in that a change in electromechanical energy is arranged to take place through a change in the thickness of the film.

26. A plastic film as claimed in claim 24, **characterized** in that a change in electromechanical energy is based on variation of the location of the film in an electric field.